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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,287

12/12/2005

Thorsten Scheibel

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EXAMINER

WILSON, GREGORY A

ART UNIT

PAPER NUMBER

3749

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,287	<b>Applicant(s)</b> SCHEIBEL ET AL.	
	<b>Examiner</b> ROBERT E. THOMAS	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15, 16, 18, 19, 22, 23, 26, 27 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 12-21, 24, 25 and 28-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/23/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
1. Regarding claim 13, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
2. Claims 15, 16, 18, 19, 22, 30, 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims the term "and/or" multiple times in a number of claims which deems these claims indefinite.
3. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant specifies in the claim, both a "lattice" which is apart of the product, and a "method". It is unclear what exactly the applicant is claiming.
- 4.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 2,962,273 *Moore* in view of U.S. Patent 5,418,063 *Booth*.

As to claim 1, *Moore* discloses a carrier (see Fig. 1) for structural parts to be subjected to a heat-treatment process, including at least one frame (10, 12, 13, 14) and a lattice (75, 76, 77, 78, 96)

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comprising intersecting strands extending therefrom, wherein the frame consists of one or more limbs (10, 12, 13, 14, see fig. 1) preferably forming a polygon, characterized in that the frame (10, 12, 13, 14) comprises temperature-resistant material and the strands which form the lattice (75, 76, 77, 78, 96) extending from the limb or limbs (10, 12, 13, 14). *Moore* does not disclose the lattice made of textile carbon fibers or ceramic fibers. *Booth* discloses fabric (2) made of carbon fibers or ceramic fibers. It would have been obvious to one having ordinary skill of the art to include the carrier teaching of *Moore* with the fabric teachings of *Booth* in order to achieve a carrier that can withstand high temperatures.

As to claim 2, *Moore* modified by *Booth* discloses the carrier according to claim 1, characterized in that the carrier (see Fig. 1) comprises a plurality of frames (10, 12, 13, 14) forming a three-dimensional body.

As to claim 3, *Moore* modified by *Booth* discloses the carrier according to claim 2, characterized in that the three-dimensional body has a basket geometry (see Fig. 1).

As to claim 4, *Moore* modified by *Booth* discloses the carrier according to claim 1, characterized in that the carbon fiber-reinforced carbon material or ceramic material forming the lattice (*Booth* 4, 5) is a fiber bundle in the form of single-layer or multilayer fiber strands or intertwined yarns and that the fiber bundle extends in a warp and woof web structure between the limbs (10, 12, 13, 14, see fig. 1) of the frame.

As to claim 5, *Moore* modified by *Booth* discloses the carrier according to at least claim 1 or claim 4, characterized in that the lattice (*Booth* 4, 5) is formed by a section of an endless fiber bundle extending between the limbs (10, 12, 13, 14, see fig. 1) of the frame.

As to claim 6, *Moore* modified by *Booth* discloses the carrier according to at least claim 1, characterized in that the limbs (10, 12, 13, 14, see fig. 1) have in their respective longitudinal edges, recesses through which extend sections of the fiber bundle for extending the lattice (*Booth* 4, 5).

As to claim 7, *Moore* modified by *Booth* discloses the carrier according to claim 6, characterized in that the recesses form a comb-like geometry in the respective longitudinal edge (24, 26, 28, 30) of the frame limb (12, 14, 16, 18).

As to claim 8, *Moore* modified by *Booth* discloses the carrier according to at least claim 1, characterized in that the limbs (10, 12, 13, 14) of the frame (10, 12, 13, 14, 60, 81) have openings such as borings through which the fiber bundle passes.

As to claim 9, *Moore* modified by *Booth* discloses the carrier according to at least claim 4, characterized in that the fiber bundle (*Booth*, bundles of 4, 5), laid in the web structure, extends under tension between the limbs (10, 12, 13, 14, see fig. 1).

As to claim 11, *Moore* modified by *Booth* discloses the carrier according to at least claim 1, characterized in that the limbs (10, 12, 13, 14, 60, 81) forming the frame (10, 12, 13, 14, 60, 81) are joined together by means of plug-in connections (93 and 73).

As to claim 22, *Moore* modified by *Booth* discloses the carrier according to at least claim 21, characterized in that the upper limb (10, 12, 13, 14, 60, 81) of each side frame (92) is a flat element and/or the lower limb of each side frame is an angular element and/or the side limbs extending at a right angle thereto are each a round element.

As to claim 23, *Moore* modified by *Booth* discloses the carrier according to at least claim 22, characterized in that the flat element forms, with its flat side, a plane in which, or approximately in which, extends the lattice (75, 76, 77, 78, 96) stretched out by the frame (10, 12, 13, 14, 60, 81) extends.

3. Claim 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 2,962,273 *Moore* in view of U.S. Patent 5,418,063 *Booth* and in further view of U.S. Patent 3,410,546 *Daringer*.

As to claim 10, *Moore* modified by *Booth* discloses the carrier according to at least claim 1, characterized in that the frame (10, 12, 13, 14, 60, 81) is integrally cut out of a carbon (*Daringer*, column 2, lines 1-10) fiber-reinforced carbon plate. *Moore* modified by *Booth* does not disclose the frame made from carbon. It would have been obvious to one having ordinary skill of the art at the time of the invention to include the teachings of *Moore* with the frame of *Daringer* in order to achieve a device that has high temperature applications and better expansion properties.

As to claim 26, *Moore* modified by *Booth* discloses a method for producing a component consisting of intersecting strands of carbon fibers or ceramic fibers using a frame (10, 12, 13, 14, 60, 81) composed of one or more limbs, from which the strands having the desired lattice structure (75, 76, 77,

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78, 96) are correspondingly extended, a matrix is then inserted into the fibers and the lattice (75, 76, 77, 78, 96) is subsequently removed from the frame. *Moore* modified by *Booth* does not disclose the frame made from carbon. It would have been obvious to one having ordinary skill of the art at the time of the invention to include the baskets teachings of *Moore* with the frame of *Daringer* in order to achieve a device that has high temperature applications and better expansion properties.

As to claim 27, *Moore* modified by *Booth* and *Daringer* discloses the method according to claim 26, characterized in that the lattice (75, 76, 77, 78, 96) is separated, e.g. severed, from its sections extending from the frame (92) (*Moore* discloses a net structure that connects to the frame that is capable of being separated by screws).

***Allowable Subject Matter***

5. Claims 12-21, 24-25, 28-32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571) 272-4882. The examiner can normally be reached on Monday thru Friday, 8:00 to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregory A. Wilson/  
Primary Examiner, Art Unit 3749  
8/28/09